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## I-80 State Street to 1300 East RFP Sample

#### Introduction

I-80 from State Street to 1300 East is a major arterial along the Wasatch Front. The existing corridor consists of 15 bridges, which includes three interchanges. The existing corridor is in poor condition with deteriorating bridges, and inadequate ramp configurations at the interchanges. UDOT has decided to replace the existing bridges, add an additional general purpose lane, make ramp improvements, add an auxiliary lane, overlay the pavement, add MSE walls, and add post and panel noise/retaining walls. Due to the unique nature of the corridor and to seek innovation in hopes of minimizing disruptions to the traveling public, UDOT is seeking a CMGC contractor to help in the design process. Once the design is complete and negotiations are successfully completed, work will proceed as a normal design-bid-build and the Contractor will continue to participate throughout the construction process.

### **Project Background**

#### Environmental Document

The Department is in the process of completing a state level environmental study. The environmental document is completed and signed. A final copy will be provided on a CD for each Contractor with a summary of mitigation requirements.

#### Project plans

Project information is available on UDOT's web page with a copy of the draft environmental study, preliminary plan sheets and typical sections, 100 foot cross sections, preliminary bridge layout sheets, preliminary retaining wall sheets, preliminary noise/retaining wall sheets, and bridge as-builts at <a href="http://www.udot.utah.gov/cns/bidopeninfo.htm">http://www.udot.utah.gov/cns/bidopeninfo.htm</a>.

Project plans will be updated on UDOT's web page every Monday until the proposals are submitted.

Contact the UDOT Project Manager John Montoya for any additional information.

A CD will be provided at the mandatory pre-proposal meeting with the following information:

- Microstation CAD files showing existing mapping, roadway designs, structure designs, retaining wall designs, and aerial imagery.
- A copy of the final signed environmental document, a summary of mitigation requirements.
- Preliminary quantities for bid items not included in this proposal.

#### Right-of-Way

The Department is currently in the process of clearing all the right of way required to build the project. There are 41 parcels with right-of-way takes, of which 7 parcels are total takes, and 16 parcels with perpetual easements. Right-of-Way will continue to be cleared throughout the design process and construction will only be allowed on cleared parcels. The design team will work with the Contractor to determine critical parcels required for their phasing and approach. The acquisition process will take approximately 9 months once the parcels are identified and right-of-way documents are completed. A table of right-of-way parcels that have been submitted for acquisition and their status will be provided at the mandatory pre-proposal meeting.

#### **Utilities**

The Department is in the process of identifying and designating the existing utilities in the corridor. At the mandatory pre-proposal meeting we will provide a table identifying known major utilities and their potential conflicts. The selected contractor will be asked to assist the Department in resolving, scheduling and pricing utility relocations.

#### Traffic Control

Conventional construction methods would require traffic to be moved to one half of I-80 while the other half is being built. However, the width of the existing bridges and roadway will only allow two lanes of traffic in each direction without some temporary widening. A recent study was completed which showed that reducing the number of lanes along I-80 to two lanes in each direction for a nine month period created user delays between \$10 and \$15 million dollars. The Department would like to minimize costs to users by allowing three lanes of traffic during peak traffic hours and decrease the amount of time required to construct the project.

Currently the Department traffic control concept is to use a movable barrier system and utilize rapid bridge techniques to decrease construction impacts. Use the following general traffic control phases for bidding purposes. Any alternative traffic control plan that the Contractor would like to propose should discussed in the approach to project portion of the proposal. In general the limitations for traffic control are:

- 3 lanes for westbound peak traffic (weekdays 6:00 am to 9:00 am)
- 3 lanes for eastbound peak traffic (weekdays 3:00 pm to 7:00 pm)
- 2 lanes open in the non peak direction at all times except as stated below
- Weekend and nighttime closures for crossovers, bridge demolition, and girder placement
- The Department understands that ramp and cross street closures will be required during construction, list in the assumption in Appendix F your strategy for closures and the durations required.
- Out of the three interchanges (State Street, 700 East, and 1300 East) one of the on ramps in each directions and two of the off ramps in each direction must remain open at all times.
- Minimum lane width shall be 11 feet.
- Minimum shoulder width shall be a half foot for all inside shoulders and one foot for all outside shoulders.
- Provide two emergency pullouts for both WB and EB traffic within the project limits
- Heavy trucks (5 axels of more and weighing more than 80,000 R.G.V.W.) will be diverted onto I-215. The Department will allow the Contractor to use any of their permanent overhead VMS signs, but the Contractor will need to provide additional signs and equipment to properly notify trucks of the diversion.

Phase One	<ul> <li>Traffic is shifted to the outside with three lanes of traffic open in each direction</li> <li>Construct two crossovers</li> <li>Temporary widening of existing bridges on structures from 300 E to 900 E and Highland structure. Widen existing bridges in kind.</li> <li>Median grading, median barrier and temporary asphalt placement</li> </ul>
Phase Two	<ul> <li>Traffic is moved to widened side of I-80 with 3 lanes open in the peak traffic direction and two lanes open in the non-peak traffic direction</li> </ul>

	<ul> <li>A movable barrier system will be used to move the barrier twice a day. The Department will lease two miles of barrier and the equipment required to move the barrier for an eighteen month period. Any additional barrier that the Contractor chooses to use on the project greater than the two miles provided or that requires longer than eighteen months will be included in the Traffic Control Pay Item. Provide details and explanations for any additional barrier or time extensions in the technical proposal.</li> <li>Construct final roadway section on I-80 from State Street to 1300 East. Includes grading, surcharge, drainage, MSE walls, noise walls, pavement and barrier</li> <li>One side of the 300 E, 500 E, 600 E, 900 E, and Highland Drive -bridge structures will be constructed using rapid bridge techniques. The superstructure will be constructed on mainline I-80 adjacent to the existing bridges. See bridge phasing detail</li> <li>700 E WB bridge structure will be constructed using rapid bridge techniques. The superstructure will be constructed in the ramp infields adjacent to I-80, See bridge phasing detail</li> <li>Although, rapid bridge techniques are being planned for half of the bridges along the corridor the Department is only asking the Contractor for pricing on Move and Place Superstructure for the 300 East WB bridge and the 700 East WB bridge.</li> </ul>
Phase Three	<ul> <li>Traffic is switched to the opposite side of I-80 onto final pavement and roadway section. Three lanes of traffic are open in each direction</li> <li>Construct remaining roadway to final typical section. Includes grading, surcharge, drainage, MSE walls, noise walls, pavement, striping, signing, and barrier</li> <li>Remaining bridges are constructed</li> </ul>
Phase Four	<ul> <li>Traffic moved back into original configuration with four lanes of traffic open in each direction. Traffic will be shifted for final striping and signing placement</li> <li>Crossovers removed</li> <li>Final grading, landscaping and cleanup</li> </ul>

The final construction phasing will be determined once the Contractor is selected. The Department expects the Contractor to work with the design team to create phasing that is both economical and minimizes disruption to the traveling public.

### Rapid Bridge Construction

To minimize the impact of construction the Department is looking to use rapid bridge construction. Potential bridge staging areas are shown in the plan set and final staging areas will be determined during the design phase depending on traffic phasing. See the provided bridge sequencing sheets for further details. The Department is only asking for pricing for the Move and Place Superstructure pay item on the WB 300 East bridge structure which may require two separate moves and the WB 700 East bridge structure.

### Geotechnical

Estimated pile depths for strength resistance of 300 kips based on available borings (primarily old borings drilled for existing structures).

Assumed pile section is 16-inch OD closed end driven pile.

The property of Available   Native of Dotting   Estimated tille Deptity		Site	Number of Available	Range of Boring	Estimated Pile Depth
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	Borings	Depths	(ft)
300 East	2	100 to 120 ft	106
500 East	3	55 to 79 ft	93
600 East	5	80 to 97 ft	93
700 East	2	75 to 80 ft	85
900 East	2	40 to 80 ft	62
Highland Dr	9	30 to 71 ft	48

Notes: All estimates listed are preliminary, and will be refined as additional data become available. Estimated depths are depth below top of borings and do not include pile length above natural ground nor embedment in pile cap.

Use an average surcharge time of 90 days for embankments placed outside of the existing fill slopes. Assume no surcharge will be required in the median. At the existing bridges surcharge will be required at the new bridge abutments. Piles can be driven prior to surcharging but the abutment cap can not be placed until settlement is completed.

#### Roadway and Profile

The Department does not plan to modify the existing profile or superelevation. An additional general purpose lane and widened shoulders will be added the length of the project. To accommodate the wider section the median will be filled in, and the outside edge will be widened. The ramp configurations of the existing ramps do not provide adequate acceleration/deceleration lanes or proper weaving distances. Ramp configurations will be modified with an auxiliary lane added between the interchanges. Due to restricted right-of-way extensive MSE walls and precast retaining/noise walls are anticipated to be used to minimize impacts. The walls vary in height, but some are in the range of 20' to 25' making settlement a concern. Lightweight fill may be required in these settlement areas. The design team will work with the Contractor to minimize settlement impacts to adjacent properties and utilities.

It is the preference of the Department to use concrete pavement. If the budget does not allow for concrete pavement the Department will negotiate the use of asphalt pavement with the Contractor during final design. The Contractor will assist the design team in evaluating costs, schedule and phasing for each of the pavement sections.

#### Design Schedule

Use the following design schedule milestones in developing the overall project schedule:

- Plan-in-Hand Plan submittal and review Late September after contractor is selected
- RFC Bridge foundation plans for one side of 300 E, 500 E, 600 E, and 900 E November 1, 2007
- RFC Grading, surcharge and wall plans November 1, 2007
- Preliminary drainage plans (designed to the level needed to show pipe locations in walls and embankment areas) – November 1, 2007
- RFC Bridge foundation plans for one side of Highland Drive and 600 E Ramps December 1, 2007
- RFC Bridge foundation plans for one side of 700 E and Highland Drive ramps February 1, 2007
- RFC Superstructures 300 E, 500 E, 600 E, and 900 E December 1, 2007
- Global PS&E submittal and review Mid December
- RFC Superstructure Highland Drive January 1, 2007
- RFC Superstructure 600 E Ramps February 1, 2007
- RFC Superstructures 700 E, and Highland Drive Ramp March 1, 2008

RFC Final Plans for remainder of project – End of March 2008

## **Riverdale Road RFP Sample**

#### Introduction

Utah State Road 26 (also referred to as Riverdale Road) is a principal urban arterial which begins at SR-126 (1900 West) in Roy and continues approximately 3.7 miles northeast through the cities of Roy, Riverdale, South Ogden, and Ogden to US-89 (Washington Blvd.) in Ogden. The purpose of this project is to improve mobility, enhance safety, correct roadway deficiencies, and replace the I-15 and I-84 bridges. The project limits extend from 1900 West easterly to Washington Boulevard. The existing corridor, which carries upwards of 45,000 vehicles per day, consists of a 6-lane cross-section from the I-15 to I-84 southbound ramps and a 5-lane cross-section across the I-84 structure to Washington Boulevard. The existing corridor is heavily urbanized with a partial interchange with I-15 and a full interchange with I-84, a viaduct over the Weber River and UPRR railroad tracks, approximately 25 side streets and approximately 100 driveway access points. Drainage throughout the corridor is primarily a subsurface drainage system.

The existing condition of the pavement section in conjunction with the need for additional travel capacity has warranted that Riverdale Road be reconstructed with an additional travel lane in each direction. The I-15 and I-84 bridges are also at the end of their respective service life and will need to be replaced to accommodate the proposed travel lane section. The viaduct was constructed in years 1998 - 2001 and has the width to accommodate an additional travel lane in each direction, and therefore does not require any work except for restriping. The project also includes geometric upgrades, such as dual turn movements, at selected intersections with replacement of all traffic signals along the corridor. Retaining walls are proposed at selected locations primarily at the I-15 and I-84 bridge locations.

#### **Project Goals**

UDOT has determined that success on this project will require a balance of the following desirable outcomes:

- A high level of public satisfaction with business and property owners, motorists, and other stakeholders;
- Completion of the project on or before October 31, 2009; and
- Completion of the project within the project budget.

Key project elements affecting the balance of these goals include the level of coordination with business and homeowners, impacts to motorists, utility relocations, right-of-way clearance, and overall constructability and project construction phasing. UDOT anticipates the implementation of an incentive-based compensation program, based on Contractor performance during construction, in the areas of public satisfaction, accelerated schedule, work quality, and other key project elements.

Given the complexity of this project, UDOT recognizes that the value gained by procuring the services of a Contractor to work closely with the design team during the design phase of the project will be crucial to achieving a balance of the project goals. Project funding and project schedule dictate the need to obtain construction bids from the Contractor by early January 2008 to secure proper funding for the full project corridor and to complete the project construction by October 2009.

#### **Project Background**

The Riverdale Road corridor is one of the busiest urban corridors in Utah. As community growth and commercial development adjacent this route have increased over the recent years, the traffic and resulting congestion has decreased mobility, safety, and durability of the roadway and bridges. Recognizing the need for a major improvement project, UDOT obtained funding to initiate the NEPA process to determine a preferred alternative for the corridor. In January 2007, UDOT completed the Final Environmental Impact Statement and in April obtained a Record of Decision from the FHWA. With a preferred alternative now chosen and approved, UDOT advertised and awarded the design services contract in June to Michael Baker Jr., Inc., with Public Involvement coordination by Frontline Public Involvement.

### **Project Funding and Construction Segments**

UDOT currently has \$38 million total funding available for this project, which is estimated to cover only a portion of the complete project corridor. It is UDOT's plan to seek additional funding to construct the complete project corridor. The Contractor will work with the Design Team to establish a project segment (defined as the BaseBuild) that matches the available funding and other Optional segments that can each be added, depending on additional funding. For the purposes of the Price Proposal, UDOT has defined the BaseBuild project as the Riverdale Road segment from (and including) the I-84 interchange to Wall Avenue. The Contractor will be required to prepare a Bid by early January 2008 for the BaseBuild segment and separate Bids for each of the Optional segments. Securing the required funding will be a function of the 2008 Legislative Session approvals. UDOT may elect to initiate a project to match the available funding, or if additional funding is obtained, elect to award construction for the complete corridor (BaseBuild + Options).

The project construction is anticipated to commence in July 2008, and earlier where possible. UDOT may award "Early Release for Construction" (RFC) Packages for specific project elements (to be determined during the design phase) prior to July 2008.

#### **Project Key Issues**

# **Business & Residential Coordination**

Maintaining a high level of public satisfaction is critical to UDOT and the roadway construction industry. The Contractor should review the project Record of Decision which outlines mitigation measures as related to "Economics" that will affect the business community.

The Public Involvement Team will provide information during construction to the business owners along the project corridor including weekly newsletters, a full-time contact person as construction liaison with the Contractor, and conduct monthly meetings. It is anticipated that a Citizens Review Board will be developed to monitor the Contractors performance with respect to community interaction, and provide input to a financial incentive program for the Contractor as related to public involvement.

The Contractor will be required to provide the following:

- Provide input to the development of the Special Provisions for Traffic Control and Community Coordination.
- Coordinate with the Public Involvement Team so as to communicate correct and timely information to the community.
- Attend meetings as determined by the PI program, and provide continuous construction contact.
- Business & Property Access The Contractor will be required to provide access to businesses and properties at all times. If the specific access point is under construction, provide temporary access in the interim. Driveways accessing Riverdale Road will need to be closed on several occasions for placement of the proposed roadway pavement as well as reconstruction of the driveway, or utility

installations. Driveway closures will need to be on a case-by-case basis based on alternate access and coordination with the property owner / occupant, and adjacent business owners. Driveway closures will need to be kept to a minimum and those durations will be determined during the design phase. Construction of 'final' driveway improvements (i.e. – final paving of approach grades, curbwork, and sidewalk) will be more desirable than temporary connections. Temporary access points must be designed to accommodate vehicle types that are expected to use the access. Financial incentives will be awarded the Contractor for minimizing closures and disruptions to driveway access points.

- Night Time Access The Contractor will need to consider that many businesses receive deliveries during Non-Peak periods when the MOT restrictions are more relaxed. The Contractor will need to coordinate with specific business owners to maintain access or provide alternate means of access during non-Peak periods.
- Business Signing Plan the Contractor shall provide appropriate business signing at access points when the travel lanes and businesses are severed by a construction work zone.
- Emergency Response The Contractor will be required to work with Emergency Response personnel during the project which could potentially affect construction staging.
- The Contractor should seek methods to minimize the duration of any driveway shutdown, for example the use of high-early strength concrete or concrete panels, or partial / staged driveway shutdowns. The Unit Bid Price for PCCP will need to reflect the innovative methods the Contractor proposes.

### Maintenance of Traffic (MOT) Requirements

UDOT recognizes that construction of the project is strongly influenced by the project MOT requirements. The project <u>Record of Decision</u> outlines the general mitigation measures as related to "Inconvenience to Motorists" and "Economics" that will affect construction staging. For development of the Price Proposal, use the following MOT Criteria as follows:

- Riverdale Road Peak Periods
  - Monday through Friday 6:00 AM to 9:00 PM;
  - o Saturday 86:00 AM to 9:00 PM;
- I-15 Peak Periods
  - Monday through Friday 5:00 AM to 9:00 PM;
  - o Saturday 8:00 AM to 9:00 PM;
  - Sunday 10:00 AM to 9:00 PM -
- I-84 Peak Periods
  - Monday through Friday 6:00 AM to 9:00 PM:
  - Saturday 8:00 AM to 9:00 PM;
  - o Sunday 10:00 AM to 9:00 PM -

Travel Lane Requirements for Peak and Non-Peak periods are as follows:

- Peak Periods:
  - Riverdale Road:
    - Two 11' travel lanes, with 2' outside shoulders, per direction;
    - At a minimum, provide a left-turn lane (12' minimum width) at signalized intersections and city-owned cross streets to maintain existing left-turn movements and match existing storage lengths (maintain dual left turn lanes to Wall Avenue). Where geometry allows, provide a continuous center turn lane for increased business
    - Exclusive right-turn lanes will only be required at certain major intersections;

- Cross streets at signalized intersections Provide 11' minimum width exclusive left-turn and thru/right- turn lanes. Exclusive right-turn lanes will not be required. Exceptions to these are the dual right turn lanes at Wall Avenue, and the dual left turn lanes at 300 West.
- Cross streets at unsignalized Intersections Provide an 11' minimum width lane for left / thru / right turn movements;
- I-15 Ramps Maintain a free-flow movement for the northbound I-15 exiting traffic onto Riverdale Road. The westbound auxiliary lane for the I-15 southbound on-ramp will not be required.
- o I-84 One 11' lane minimum, no Closures;
- I-15 Two 11' lanes minimum, no Closures;
- Non-Peak Periods:
  - Riverdale Road:
    - One 11' travel lane, with 2' outside shoulders, per direction;
    - Provide for a 12' minimum width left-turn lane at signalized intersections and city-owned cross streets to maintain existing leftturn movements and match existing storage lengths. Maintain a single left turn lane to Wall Avenue. Where geometry allows, provide a continuous center turn lane for increased business access.
    - Exclusive right-turn lanes will not be required;
  - Cross streets at signalized intersections Provide 11' minimum width exclusive left-turn and thru/right- turn lanes. Exclusive right-turn lanes will not be required. Exceptions to these are the single right turn lane at Wall to Riverdale Road, and the single left turn lane at 300 West.
  - Cross streets at unsignalized intersections Provide an 11' minimum width lane for left / thru / right turn movements;
  - I-15 Ramps Maintain a free-flow movement for the northbound I-15 exiting traffic onto Riverdale Road. The westbound auxiliary lane for the I-15 southbound on-ramp will not be required.
  - I-84 1 lane minimum, 15 closures permitted (existing ramps allowable to use for mainline diversion);
  - I-15 1 lane minimum, 15 closures permitted (off-site detour required);
- "Prohibited Construction Dates" will include the period from and including Thanksgiving Day through New Years Day, State and Federal Holidays. During this period, travel lane requirements for Peak periods will apply with the additional requirement for a continuous center turn lane. All existing and/or new traffic signals must remain in operation and coordinated during these prohibited dates. Traffic may be shifted onto temporary lanes and/or on temporarily widened areas during these prohibited dates. Traffic Control devices must be maintained at all times. All side streets must remain open to traffic. All driveways must remain open to traffic.
- Detours / Closures At this time, full closures will not be permitted along Riverdale Road. Along I-15 or I-84, a maximum of 15 closures (per interchange / per direction) will be permitted All traffic must be detoured via State Routes. No simultaneous closures along I-15 and I-84 mainline / ramps will be allowed. Refer to section "Project Technical Information" below for more information regarding construction phasing at the I-15 and I-84 interchanges.
- Construction Segments As a mitigation measure to the economic impacts to businesses during the construction period, the ROD requires the work to be completed in segments to limit the amount of time that each segment of the roadway is under construction. The intent of this requirement is to limit the duration of impacts to business access. UDOT has determined that these "impacts" occur when construction takes place between the near side travel lanes and the property frontage. To limit the duration of such impacts, for any construction phase requiring work between the near side travel lanes and the property frontage, the Contractor will be required to define a segment (or length of roadway) in which final completion of

PCCP will occur within 45 days of the start of work in that segment. This 45 day period will also include construction of final driveway connections, curb and gutter, sidewalk, walls, grading, topsoil, and other items of work (including cure time and joint work) to produce a finished surface (excluding landscaping). This 45 day period excludes utility work or underground drainage installations, although the Contractor is encouraged to minimize any disruptions to property access. For the purposes of this Proposal, there will be no restrictions on the lengths of a construction segment, or construction sequencing, provided the MOT criteria are met. The Contractor may have more than one segment under construction at a time. Where the construction phase doesn't require work between a business access and the near side travel lanes (such as when construction is in the middle of the roadway), no 45 day limit applies; though accelerated full width completion is encouraged to provide left turn access to businesses. Construction segments will be dictated by factors such as ROW acquisitions, utility relocations, production ability, and/or drainage installations which are unknown at this time. The Contractor shall work with the design team and the Public Involvement Team to identify project construction segments as part of the overall construction phasing plan.

- Emergency Response The Contractor will be required to work with Emergency Response personnel during the project which could potentially affect construction staging. Maintain the current emergency response times during construction.
- Intersections intersection configurations will need to accommodate WB-50 trucks during both Peak and Non-Peak Periods.
- Work Schedule As per the ROD, the majority of the work must be performed between 9:00 PM and 6:00 AM. The Contractor will need to plan and conduct work to show that this is achieved. The Contractor will be able to work during both Peak and Non-peak periods provided the criteria for MOT and Business / Residential Coordination are met. The Contractor shall minimize disruption to motorists from construction vehicles entering or exiting the work zones, particularly during the Peak periods.

The MOT criteria as listed above are preliminary requirements as derived from the mitigation measures from the approved ROD. The final construction staging will be determined during the design phase once the Contractor is selected, as approved by the UDOT. The Department will require the Contractor to work with the design team to create staging that is both economical and minimizes disruption to the traveling public. The design team will assist the Contractor with traffic analysis or staging plans to determine the project construction staging. The Contractor will be required to follow the UDOT Standard Drawings, AASHTO, and Federal MUTCD when developing Traffic Control Plans. Refer to the "Project Technical Information" section below for more discussion on traffic control.

UDOT has a Public Involvement Team assigned to this project during the design and construction phase. The PI Team will work with the Contractor during the design phase to develop the public involvement plan for construction. The PI Team will inform motorists of construction activities during construction. The Contractor will be required to provide information to the PI Team to meet specified advance notifications (i.e. "X" days for lane closures).

### Constructability & Construction Sequencing

To accomplish UDOT's goals of public satisfaction, early completion and meeting project budget, the Contractor will need to be innovative in their approach towards constructing this project. Successfully achieving a balance of the goals of the project will require a partnership with the design, increased stakeholder coordination, creative staging of the work, allowance for flexibility, timely response, and may require alternate or new construction procedures. Project constructability and construction sequencing efforts will

need to start during the design phase with the design team and the public involvement team and then continue into the construction phase.

Elements of the project construction, requiring close involvement with the design team and project stakeholders, that will benefit the construction phase could be as follows:

- Pavement use of high-early strength concretes and/or concrete panels, examine pavement design sections for production efficiencies;
- Drainage re-use of existing pipe network, in-situ treatments, minimizing drainage crossings or installing dual storm systems for utility avoidance;
- Bridges Accelerated Bridge Construction (ABC) measures such as precast components, or design of structural components for efficient fabrication;
- Retaining walls identification of wall types considering soil types, location of walls to minimize wall quantity's;
- Traffic signals location of signal poles to eliminate interference with existing hardware, using new signals for MOT;
- Utility relocations sequencing of private utility relocations ahead of roadway construction;
- Right-of-Way coordination with property owners in advance of UDOT negotiations to allow early entry onto property for utility relocations;
- Early "Release For Construction" (RFC) Packages early start of construction and early completion of project areas due to critical path or availability of right-of-way, such as the I-84 bridge replacement, waterline installation, sanitary installation, settlement mitigations, and/or retaining walls.

Refer to the "Project Technical Information" below for more detail on the proposed project design elements.

#### **Utilities**

It is essential that the Contractor be involved with each utility company during the design phase to reduce the risk of utility impacts during construction, and to initiate coordination with respective utility companies as related to construction phasing and timeframes for relocation of utilities as required. The Riverdale Road corridor has extensive utilities located within the right-of-way and extensive service connections to properties along the corridor. Preliminary locations of utilities are shown on the Preliminary Roadway Plan Sheets. The Department is in the process of identifying and designating the existing utilities in the corridor. The draft results of identification (SUE Level B) of existing utilities are posted on the project website. The Design Team will conduct SUE Level A (utility potholes) during the design phase. The scope of the selected Contractor will include involvement during the design phase to minimize and/or eliminate to the extent practical utility relocations for the overall reduction in project cost. The Contractor may elect to conduct additional potholes to further explore potential utility impacts (see Appendix B – Early Procurement).

The following utility owners are known to be present along the corridor:

Owners Name	General Location
AT&T Communications Fiber Optic	Throughout project limits
Central Weber Sewer Improvement District	Throughout project limits
Comcast Buried Cable TV	Throughout project limits
Comcast Overhead Cable TV	Throughout project limits
Davis and Weber Counties Canal	Throughout project limits
Electric Lightwave Fiber Optic	Throughout project limits

Level 3 communications Fiber Optic	Throughout project limits
Ogden City Sanitary Sewer	Ogden City limits
Ogden City Storm Drain	Ogden City limits
Ogden City Water	Ogden City limits
Questar Gas	Throughout project limits
Qwest Fiber Optic	Throughout project limits
Qwest Telephone	Throughout project limits
Riverdale Bench	Riverdale City limits
Riverdale City Sanitary Sewer	Riverdale City limits
Riverdale City Storm Drain	Riverdale City limits
Riverdale City Water	Riverdale City limits
Roy City Sanitary Sewer	Roy City limits
Roy City Storm Drain	Roy City limits
Roy City Water	Roy City limits
Roy Water Conservancy District	Roy City limits
South Ogden City Sanitary Sewer	South Ogden City limits
South Ogden City Storm Drain	South Ogden City limits
South Ogden City Water	South Ogden City limits
Sprint Fiber Optic	Throughout project limits
UDOT Fiber Optic	Throughout project limits
UDOT Storm Drain	Throughout project limits
Utah Power / Pacificorp Buried Electric	Throughout project limits
Utah Power / Pacificorp Overhead Electric	Throughout project limits
Washington Terrace Sewer	Throughout project limits
Weber Basin Water Conservancy	Throughout project limits
District Irrigation	
Weber Basin Water Conservancy	Throughout project limits
District Water	
XO Fiber Optic	Throughout project limits

Utility relocations anticipated to be performed by the Contractor including but not limited to – water valve grade adjustments, waterline looping, water service connections, sanitary sewer cleanout grade adjustments, and/or irrigation system modifications. Private utility relocations (i.e. – gas, telephone, electric) will be conducted by the respective utility company owners. The Contractor will be required to work with the individual utility owners regarding relocation of utility's and construction phasing.

### Right-of-Way (R/W)

It is essential that the Contractor develop a construction phasing plan so as to prioritize the R/W document preparation, appraisal, negotiation, and acquisition process in a timely manner. The Department has initiated development of right-of-way instruments to obtain the necessary right-of-way for this project. Approximately 80 properties have been identified where property will be required. The proposed right-of-way lines are shown on the Preliminary Roadway Plan Sheets and are preliminary only and subject to change during the design process. The plans show the typical right of way width for the corridor. Additional right of way may be needed for right turn lanes. Perpetual easements (including but not limited to driveway, slope, signal, and drainage, utility) and temporary construction easements will be identified during the design phase. Right-of-Way documents will be prepared during the design phase and the property acquisition phase will begin in January 2008 or earlier if possible. The design team will work with the Contractor to determine critical parcels required for their phasing and approach. Critical parcels will be progressed through the ROW process by UDOT as a priority. The acquisition process may take approximately 9 months per parcel once the parcels are identified and right-of-way documents are completed.

The Contractor will be allowed to initiate project construction, prior to UDOT's completion of the right-of-way acquisition process for the full project, in areas where R/W is not required or within the existing R/W, and/or in areas where the R/W has been obtained. The Contractor shall consider the right-of-way acquisition requirements when developing the construction phasing / MOT plans, the project construction schedule, and the Price Proposal. The Contractor shall assume that all properties will be acquired by September 2008.

### **Project Technical Information**

UDOT and the Design Team will follow the UDOT Design Process, and will follow UDOT Standard Specifications, Standard Drawings, and Manuals of Instruction. The Contractor shall assume that all Project Plans are preliminary and are based off the approved environmental document, and therefore are subject to change during final design. Critical components of the final design, requiring extensive input from the Contractor, for this project are as follows:

### Riverdale Road Pavement Design

The current UDOT pavement design consists of "PCCP whitetopping" pavement rehabilitation with full-depth PCCP widening. Refer to the project website for the UDOT Pavement Design Report "Mechanistic Empirical and Whitetopping Pavement Design" prepared by Kleinfelder for UDOT dated February 15, 2007. Refer to the Preliminary Roadway Plan Sheets for pavement core locations as referenced in the Report. The "whitetopping" design is an unbonded concrete overlay of 7.5" with 4" of asphalt milling. A pavement investigation is underway to locate horizontally and vertically the existing concrete pavement along Riverdale Road. Typically, the proposed roadway profile will be 4" above the existing roadway profile, except to match the I-15 and I-84 structures, the existing viaduct, and selected locations where the pavement may require full reconstruction due to profile or where the current pavement is PCCP. In areas where there is substantial asphalt depth over the existing concrete pavement, it may be necessary/desirable to mill/remove more than 4" of asphalt to minimize sideslope/driveway impacts. When placing concrete pavement, the Contractor shall construct to the lane line which will affect phasing and construction limits.

Refer to the Preliminary Typical Section Sheets illustrating the proposed pavement rehabilitation / widening design. Three typical pavement sections are anticipated:

- "Concrete Overlay" over an existing subsurface concrete pavement section per the Pavement Design, 4" of existing asphalt should remain over the existing concrete, with 7.5" of PCCP placed on top of the existing asphalt;
- Full-Depth PCCP Section consisting of 7.5" of PCCP in areas that are outside the
  existing pavement limits, or in areas requiring full reconstruction due to profile grade
  modifications; and
- "Concrete Overlay" over existing pavement (no existing subsurface concrete pavement) – this will be dependent upon the thicknesses of existing asphalt pavement and support structure as well as subgrade conditions. If the existing pavement section is inadequate, then full-depth reconstruction will be required.

Appendix D includes a pay item for "Portland Cement Concrete Pavement 7.5 inch Thick". The Price Proposal will need to consider that UDOT Specifications and Standards for concrete pavements will apply.

### Design of Riverdale Road Structure over I-15

Refer to the project website for the I-15 Structure Plan Sheets. The proposed design includes a 2-span structure with a center pier within the I-15 median. The eastern span

will need to accommodate future NB exit ramps from I-15 to Riverdale Road (to go west). These future ramps are not in this contract. The superstructure is proposed as steel girders. MSE walls will be located around the abutments. Settlement should be considered for construction of the MSE walls. Due to the increase in span lengths, vertical clearance requirements over I-15, it is likely that the roadway profile will be higher than existing and therefore the roadway approaches to the I-15 structure will require reconstruction rather than the rehabilitation, including the ramp realignments. The I-15 structure is a potential "Early RFC" package due to the availability of R/W and the schedule constraints. The existing structure is a steel girder bridge – refer to project website for as-builts.

The Contractor will need to develop a construction phasing plan for demolition and construction so as to abide by the traffic control requirements and to minimize impacts to I-15 traffic. It may only be possible to carry 3 travel lanes during construction phasing for this bridge replacement. The Contractor shall work with the design team during the design phase to further examine relaxation of traffic control requirements. Possible detour routes for Riverdale Road traffic or "Alternate Routes" to be used during construction include 5600 South / 1500 West (local jurisdiction) and/or I-84 / 31 st Street / Hinckley Drive.

Appendix D includes pay items for "Structural Steel (I-15)" and "Structural Concrete". The Price Proposal will need to consider that UDOT Specifications and Standards for these items will apply.

Accelerated Bridge Construction (ABC) – UDOT and the Design Team will incorporate ABC techniques on the design and construction of the bridges to minimize impact to traffic and reduce construction timeframe of the bridge. Due to design schedule constraints, an ABC method may be determined by the time the Contractor is selected. The Contractor will be required to provide assistance to the design team for the ABC implementation.

The Contractor shall assume conventional construction of the bridges over I-15 to determine the Unit Prices in Appendix D.

### Design of Riverdale Road Structure over I-84

Refer to the project website for the I-84 Structure Plan Sheets. The proposed design includes a 2-span structure with a center pier within the I-84 median. This existing diamond interchange will be replaced with a SPUI configuration. The superstructure is proposed as prestressed concrete girders, and is proposed as a rectangular shape structure. MSE walls will be located around the abutments. Settlement should be considered for construction of the MSE walls. Due to the increase in bridge width and vertical clearance requirements over I-84, it is likely that the roadway profile will be higher than existing and therefore the roadway approaches to the I-84 structure will require reconstruction rather than the rehabilitation. The I-84 structure is also a potential "Early RFC" package due to the availability of R/W and the schedule constraints. The existing superstructure is a cast-in-place concrete type – refer to project website for as-builts.

The Contractor will need to develop a construction phasing plan for demolition and construction so as to abide by the traffic control requirements and to minimize impacts to I-84 traffic. The Contractor shall work with the design team during the design phase to further examine construction phasing of the bridge replacement and ramp construction.

Appendix D includes pay items for "Prestressed Concrete Members (I-84)", "Structural Concrete", and "Precast Concrete Deck Panels (I-84)". The Price

Proposal will need to consider that UDOT Specifications and Standards for these items will apply.

Accelerated Bridge Construction (ABC) – UDOT and the Design Team will incorporate ABC techniques on the design and construction of the bridge to minimize impact to traffic and reduce construction timeframe of the bridge. The Contractor will be required to provide assistance to the design team for the ABC implementation.

The Contractor shall assume using precast concrete deck panels as a minimum ABC construction method of the bridges over I-84 to determine the Unit Prices in Appendix D.

#### Geotechnical

The Department has initiated the geotechnical investigation phase. Geotechnical borings are being conducted at the I-15 and I-84 structure locations, and the proposed retaining wall locations along the south side of Riverdale Road between 1500 West and I-84. The project website includes soil borings obtained at the I-84 and I-15 interchange areas with the exception of one boring at the I-15 northbound off ramp. It is expected that the soil borings for the proposed retaining walls will be completed by early September 2007. Boring information from the existing bridges can be found in the as-built plans.

It is anticipated that settlement mitigation will be required in the following areas:

- proposed I-84 ramps;
- approaches to I-84 structure;
- I-15 NB off-ramp.

Refer to Preliminary Roadway Profile Sheets for profiles of the I-84 and I-15 ramps.

### Sidestreet and Driveway Design

Sidestreets will be widened, resurfaced and/or reconstructed based on intersection geometry requirements and profile constraints. It is anticipated that sidestreet pavements will remain as asphalt. Driveways along the corridor will be reconstructed to match the roadway profile and cross-slope. The Contractor will work with the design team during the design phase to develop construction phasing for sidestreets to minimize impacts to motorists.

#### Drainage Design

Drainage improvements will be required for this project, but have not been developed at this point. The Contractor will work closely with the design team during the design phase to review the proposed drainage layouts to minimize or avoid utility relocations, for construction phasing, or to further reduce project cost or improve project schedule, the drainage design will be progressed following UDOT Manual of Instruction. The DEIS / FEIS documents (Section 4.9.1.2) indicate the following drainage systems (also See Figure 4.4 of the DEIS):

- I-15 to 1900 West no significant drainage work is included in these limits;
- I-15 to Weber River located entirely within the Riverdale City limits and drains to the
  east. The proposed detention basins within the I-84 interchange infield area will
  control the size of the trunk line (36" drain) and restrict the outflow to the proposed
  Riverdale City storm drain system at 4400 South. The I-84 detention pond system
  will be constructed as part of this project. Riverdale City will construct the 4400
  South detention pond and storm water laterals as an independent project. The
  Contractor will construct the storm drain system from Riverdale Road to the 4400
  South detention pond.

- Weber River to Burch Creek located within the Riverdale City limits. Runoff will be conveyed to the north through a new outfall pipe along 300 West and Pacific Avenue to Burch Creek.
- Lincoln Avenue to Birch Creek will connect to the 300 West outfall. The storm sewer trunkline in Riverdale Road will be constructed as part of this project. All runoff within this area will drain the 300 West outfall and into Burch Creek.
- 36<sup>th</sup> Street to Washington Boulevard the Lincoln Avenue to 36<sup>th</sup> Street and the 36<sup>th</sup> Street to Washington Boulevard subsystems drain to a trunk line of an Ogden City storm sewer system. The storm sewer subsystem along Riverdale Road will be improved as part of this project and updated as needed to match the proposed roadway but would outfall to the existing storm drain system.

The proposed drainage improvements within these drainage systems will include drainage inlets, catch basins, possible in-line storm water treatment structures, drainage laterals and trunk lines, typical to an urban roadway drainage system. Existing drainage infrastructure will be used to the extent practical and based on hydraulic capacity and condition. UDOT will conduct pipe videos to assess the condition of pipes proposed to be re-used as part of the system.

#### Sanitary Sewer Design

The following sanitary sewer replacements will be included as part of this project to be installed by the Contractor:

- Station 71+00 RT to 81+50 RT, 8" Riverdale City;
- Station 135+00 RT to 165+00 RT, 8" Riverdale City;
- Station 137+50 LT to 144+50 LT, 8" Riverdale City;
- Station 150+50 LT to 158+00 LT, 8" Riverdale City; and
- Replacement of 8" rcp with 8" pvc, approximately 2100' total, South Ogden City.

These utility replacements may be possible "early RFC" projects if R/W is not a constraint.

### Waterline Design

The following waterline replacements will be included as part of this project to be installed by the Contractor:

- Station 45+25 RT / LT (1500 West), 10" Riverdale City;
- Station 68+40 LT to 100+50 LT, 8" Riverdale City;
- Station 80+00 RT (1050 West) to 106+00 RT, 10" Riverdale City;
- Station 136+00 LT to 165+50 LT, 10" Riverdale City;
- Station 137+00 RT to 165+00 LT, 8" Riverdale City; and
- Replacement of 4" steel (south side) and 8" steel (north side), approximately 4700' total, South Ogden City.

These utility replacements may be possible "early RFC" projects if R/W is not a constraint.

#### Traffic Signals / Lighting

Refer to the Preliminary Traffic Signal Sheets. Existing traffic signals within the project limits will be replaced with new traffic signals, including underground infrastructure and detection. Signals along the project will be interconnected and will use video detection. To facilitate the video detection system, it is anticipated that lighting will be placed at all four corners of each intersection. Existing signals will need to remain operational until the new signal is completed. The existing signal system is currently interconnected and has communication from the Traffic Operations Center (TOC) in Salt Lake City. Signal timings and phasing's of existing signals may need to be adjusted during construction phasing for improving traffic flow during construction. UDOT will salvage all controllers,

cabinets, and video equipment. Signal heads and poles will become the property of the Contractor.

### **ATMS**

UDOT currently has a fiber-optic trunkline that connects all existing signals along Riverdale Road and provides a link from the TOC in Salt Lake City to the Region 1 Headquarters. It is anticipated that this trunkline will need to be replaced with this project. Depending on funding, this project also includes a new hub station to be constructed near the 1500 West intersection.

#### Retaining Walls

Retaining walls are anticipated at the following locations (also refer to Preliminary Retaining Wall sheets):

- I-15 structure retaining walls as shown on the I-15 Structure Sheets.
- I-84 structure retaining walls as shown on the I-84 Structure Sheets.
- Station 48+00 to 56+20 RT proposed 'cut' wall approximately 10 15 feet height. Wall type currently unidentified. Purpose of wall is to accommodate the proposed sidewalk along the south side of Riverdale Road and to avoid right-of-way acquisition. Contractor to work with design team to determine wall type and reduce project cost. Installation of this retaining wall is a possible "Early RFC" work item.
- Station 56+60 to 58+60 RT proposed 'fill' wall approximately 15 20 feet height.
   Wall type currently unidentified. Purpose of wall is to accommodate the proposed
   sidewalk along the south side of Riverdale Road and to avoid right-of-way acquisition
   from Golden Spike Park. Contractor to work with design team to determine wall type
   and reduce project cost. Installation of this retaining wall is a possible "Early RFC"
   work item.
- Miscellaneous short-height retaining walls are anticipated at specific locations (to be determined during design phase) to minimize slope impacts to property. Wall types will be determined during the design phase with input from the Contractor. Close coordination will be required with property owners.

#### **Proposal Information**

Refer to the following information, located on the project website, as a reference for further understanding of Project Key Issues and Technical Information sections below:

- Preliminary Roadway Plan Sheets;
- Preliminary Typical Sections and UDOT Pavement Design Recommendation;
- Preliminary I-15 and I-84 Structure Plan Sheets;
- Preliminary Retaining Wall Sheets:
- Preliminary Traffic Signal Sheets;
- Preliminary Signing and Striping Sheets;
- As-Built Plans (limited);
- Aerial Photography (year 2007);
- Microstation files (including but not limited to existing topography, existing utilities, existing right-of-way, addresses, proposed design, proposed right-of-way);
- Preliminary quantities for bid items not included in this proposal;
- Environmental Document (DEIS, FEIS, ROD);
- Utah "Roadview" (www.roadview.udot.utah.gov);

Contact the UDOT Project Manager David Adamson for any additional information.

### **Design and Construction Package Schedule**

Use the following design schedule milestones in developing the overall project schedule (assumes construction of full corridor):

- Contractor selected (10/02/07) and available to participate in design:
- Conduct "CMGC Workshop" shortly after selection;
- Submit Plan-In-Hand Set early October 2007 (review within 2 weeks);
- "Price Center" estimates by Contractor from PIH Set until Final Bid (by 1/8/08);
- Possible "Early Procurement" of materials (see Appendix B);
- Advance Design Plan Set (or PS&E Plan Set) mid-December;
- Complete critical ROW Documents mid-December;
- Determine "BaseBuild" project limits to match current funding (by 1/8/08);
- Final Bid from Contractor 1/8/08 (complete project);
- "Options" Bids from Contractor by 1/8/08;
- UDOT request for additional funding Feb/March 2008;
- Complete Final PS&E by March 2008;
- Early RFC packages issued to Contractor April 2008;
- RFC Final Plans for remainder of project May 2008;
- Complete all right-of-way acquisitions September 2008.

## Virgin River Trail RFP Sample

#### Introduction

The Virgin River Trail Phase I & II is a Local Government project administered through UDOT by Washington City. The project includes a 10-foot wide paved asphalt trail with 2-foot gravel shoulders on each side and 5 feet of clearance where the trail is adjacent to ditches, channels and slopes greater than 3:1.

The trail is approximately 2.9 miles long and consists of two trail segments. The first segment of the trail would begin at the tee intersection of Telegraph Road and Washington Parkway and run in a southerly direction down Grapevine Pass to the north bank of the Virgin River. It would then continue east along the north bank of the river and tie into the Sunrise Valley Trail. The second trail segment would start approximately ½-mile downstream of where Cottonwood Wash intersects Telegraph Road. The trail would then continue in a southwesterly direction down Cottonwood Wash and tie into segment one that would run down Grapevine Pass.

### **Project Background**

#### **Environmental Document**

An Environmental Assessment for the Bureau of Land Management (BLM) and a Categorical Exclusion CAT-X for FHWA are required on this project.

The trail alignment runs through rugged virtually untouched terrain. Identifying specific excavation and construction methods that minimize impacts to the environment is important. Having the contractor participate in the design process will enable the project team to develop the best design alternatives and construction methods that will help minimize impacts to the environment.

In addition to identifying construction methods that minimize impacts to the environment, work may need to be staged to minimize impacts to the Southwest Willow Flycatcher. A portion of the proposed alignment is near habitat for the Flycatcher. Work in this area will need to be completed outside the Flycatcher mating season.

#### Right-of-Wav

The project will be constructed on a combination of private land, State of Utah lands, and public lands administered by the BLM, St. George Field Office.

#### Utilities

No known utility conflicts at this time.

#### Plan and Profile

The Virgin River Trail project will require the construction of a bicycle/pedestrian facility through rugged terrain. The proposed alignment winds through small canyons, large rock outcroppings and boulders. Identifying alignments and creative excavation methods that minimize excavation costs is critical to the project budget. Having an experienced contractor assist in identifying cost effective construction methods in this unique environment is critical to maintaining an efficient project budget.

#### Project plans

Preliminary project plans, aerial, draft environmental document are available for download at the UDOT Construction website at <a href="http://www.udot.utah.gov/cns/bidopeninfo.htm">http://www.udot.utah.gov/cns/bidopeninfo.htm</a>.

I-15 Spanish Fork Bridge Deck Replacement

#### Introduction

The project, located near Spanish Fork, Utah, involves replacing the decks, parapets and approach slabs of three (3) pairs of I-15 bridges: one pair over the Spanish Fork River, one pair over a local road (100 South, Spanish Fork) and one pair over UPRR railroad tracks for an industrial spur (approximately Center St. in Spanish Fork). In addition to bridge deck replacement, there will be some minor structural repair to the remaining superstructures. Associated roadway (MOT) improvements will also be part of this project.

#### **Project Goals**

UDOT has determined that success on this project will require a balance of the following desirable outcomes:

- A high level of safety for motorists, with minimal inconvenience
- A high quality, durable product constructed in the least time possible
- Completion of the project within the project budget

Key project elements affecting the balance of these goals include overall constructability and project construction phasing, and impacts to motorists.

Given the complexity of this project, UDOT recognizes that the value gained by procuring the services of a Contractor to work closely with the design team during the design phase of the project will be crucial to achieving a balance of the project goals. Project construction is to be completed by May 22, 2008.

#### **Project Background**

The six bridges that comprise this project are the first of 18 bridges that have been identified by UDOT as needing deck replacements and minor rehabilitation. These 18 bridges are located on I-15 between Spanish Fork and Santaquin. This project, located in the vicinity of Spanish Fork, Utah, involves replacing the decks and approach slabs of three (3) pairs of I-15 bridges. In addition to bridge deck replacement, there will be some minor structural repair to the remaining superstructures. The structures in question are F-104 over the Old Sugar Factory Spur, F-103 at the Leland Sugar Factory, and F-102 over the Spanish Fork River. The bridges for both the northbound and southbound lanes of I-15 at these locations are included. The bridges have a number of deficiencies, including cracking, in various locations; leaking; and some collision damage. There is some potholing as well, and some spall. These bridge decks are a priority of Region 3 Maintenance for completion as soon as possible.

#### **Project Funding and Construction Segments**

UDOT currently has \$6 million available for construction of this project. The Contractor will be required to prepare a Bid for all project components by December 31, 2007. The Bid will be used to identify the need for additional funding, if any, by UDOT. Portions of the project (i.e. crossover construction, precast panel procurement, etc.) may be Bid early, with UDOT's approval, to facilitate early construction in the construction schedule. Project construction is to be completed by May 22, 2008.

#### **Project Key Issues**

### Maintenance of Traffic (MOT) Requirements

UDOT's standard MOT requirements for I-15 will apply to this project.

- I-15 1 lane minimum, no full Closures;
- 100 South –closures permitted (off-site detour required).
- During the following periods, travel lane requirements for I-15 are two lanes in each direction.

- Before March 1, 2008.
- o May 23, 2008 through May 26, 2008

The Department will require the Contractor to work with the design team to create a MOT plan that is both economical and minimizes disruption to the traveling public. The Contractor will be required to follow the UDOT Standard Drawings, AASHTO, and Federal MUTCD when developing Traffic Control Plans.

UDOT has a Public Involvement Team assigned to this project during the design and construction phase. The PI Team will inform motorists of construction activities during construction. The Contractor will be required to provide information to the PI Team to meet specified advance notifications (i.e. "X" days for lane closures).

### Constructability & Construction Sequencing

To accomplish UDOT's goals of public satisfaction, early completion and meeting project budget, the Contractor will need to be innovative in their approach towards constructing this project. Successfully achieving a balance of the goals of the project will require a partnership with the design, creative staging of the work, allowance for flexibility, timely response, and may require alternate or new construction procedures. Project constructability and construction sequencing efforts will need to start during the design phase with the design team and then continue into the construction phase.

Elements of the project construction, requiring close involvement with the design team and project stakeholders, that will benefit the construction phase will be as follows:

- Bridges Accelerated Bridge Construction (ABC) measures such as precast components, or design of structural components for efficient fabrication;
- Maintenance of Traffic Sequencing of construction activities to minimize travel lane restriction times;
- Railroad Coordination sequencing of construction activities with train schedule;
- Early "Release For Construction" (RFC) Packages early start of construction and early completion of project areas due to critical path or availability.

Refer to the "Project Technical Information" below for more detail on the proposed project design elements.

#### Demolition

It is essential that the Contractor be involved during the design phase to reduce the risk of impacts to the bridge superstructures during construction. Existing superstructures are shown on the As-built sheets which will be made available at the Pre-proposal Meeting. The scope of the selected Contractor will include involvement during the design phase to minimize and/or eliminate to the extent practical impacts to the existing superstructures during the removal of the existing decks.

### **Project Technical Information**

UDOT and the Design Team will follow the UDOT Design Process, and will follow UDOT Standard Specifications, Standard Drawings, and Manuals of Instruction. The Contractor shall assume that all Project Plans are preliminary and are based off the approved environmental document, and therefore are subject to change during final design. Critical components of the final design, requiring extensive input from the Contractor, for this project are as follows:

#### Design of Bridge Decks over 100 South

Refer to the project website for the I-15 Structure Plan Sheets. These bridges are 3-span structures over a local road. This local road may be closed aperiodically for various construction activities. The existing structure is a pre-cast concrete girder bridge.

The Contractor will need to develop a construction phasing plan for demolition and construction that will protect the existing superstructure that is to remain, abide by the traffic control requirements, and minimize impacts to I-15 traffic. The Contractor shall work with the design team during the design phase to examine traffic control requirements options.

Accelerated Bridge Construction (ABC) – UDOT and the Design Team will incorporate ABC techniques on the design and construction of the bridge deck to minimize impact to traffic and reduce construction timeframe of the bridge. The Contractor will be required to provide assistance to the design team for the ABC implementation.

### Design of Bridge Decks over Railroad Spur

Refer to the project website for the I-15 Structure Plan Sheets. These bridges are 3-span structures over a railroad industrial spur. This railroad spur may be closed for up to 4 days aperiodically for various construction activities. The existing structure is a pre-cast concrete girder bridge.

The Contractor will need to develop a construction phasing plan for demolition and construction that will protect the existing superstructure that is to remain, abide by the traffic control requirements, and minimize impacts to I-15 traffic. The Contractor shall work with the design team during the design phase to examine traffic control requirements options.

Accelerated Bridge Construction (ABC) – UDOT and the Design Team will incorporate ABC techniques on the design and construction of the bridge deck to minimize impact to traffic and reduce construction timeframe of the bridge. The Contractor will be required to provide assistance to the design team for the ABC implementation.

#### Design of Bridge Decks over Spanish Fork River

Refer to the project website for the I-15 Structure Plan Sheets. These bridges are 2-span structures with a center pier within the river floodplain, but outside the current water level. The existing structure is a precast concrete girder bridge.

The Contractor will need to develop a construction phasing plan for demolition and construction that will protect the existing superstructure that is to remain, abide by the traffic control requirements, minimize impacts to I-15 traffic, and comply with the requirements of the Stream Alterations Permit. The Contractor shall work with the design team during the design phase to examine traffic control requirements options.

Accelerated Bridge Construction (ABC) – UDOT and the Design Team will incorporate ABC techniques on the design and construction of the bridge deck to minimize impact to traffic and reduce construction timeframe of the bridge. The Contractor will be required to provide assistance to the design team for the ABC implementation.

### MOT Design

I-15 is to remain open to traffic at all times with a minimum of one 11' lane of traffic in each direction. The amount of time for restriction of I-15 traffic on one lane is to be minimized to the extent possible. During the following periods, travel lane requirements for I-15 are two lanes in each direction.

- Before March 1, 2008.
- May 23, 2008 through May 26, 2008

#### **Proposal Information**

Refer to the following information, located on the project website, as a reference for further understanding of Project Key Issues and Technical Information sections below:

- Preliminary Roadway Plan Sheets;
- Preliminary Typical Sections and UDOT Pavement Design Recommendation;
- Preliminary I-15 Structure Plan Sheets;
- Environmental Documents (Cat. Ex. II, and Stream Alterations Permit);

Contact the UDOT Project Manager John Clarkson for any additional information. Limited Asbuilt drawings of all three bridge pair will be made available at the Pre-proposal Meeting.

### **Design and Construction Package Schedule**

Use the following design schedule milestones in developing the overall project schedule

- Contractor selected November 2007 and available to participate in design;
- Conduct "CMGC Workshop" shortly after selection;
- Possible "Early Procurement" of materials (see Appendix B);
- Early RFC packages issued to Contractor December 2007;
- RFC Final Plans for remainder of project January 2008;
- Final Bid from Contractor February 2008;
- Construction Substantially complete by June 30, 2008.